

Application No.: 10/669,390

Case No.: 58625US002

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**Amendments to the Claims:**

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of formulating a pharmaceutical composition comprising:  
    comparing parameters of at least one pharmaceutical and a plurality of compounds,  
    wherein the parameters comprise at least  $\log(P)$  and molecular weight;  
    choosing at least one model compound from the plurality of compounds for each  
    pharmaceutical;  
    providing at least one model compound-excipient formulation comprising at least one  
    model compound and at least one excipient;  
    measuring the diffusion of a model compound of at least one model compound-excipient  
    formulation across at least one membrane;  
    choosing a model compound-excipient formulation based on the measured model  
    compound diffusion; and  
    combining components comprising the at least one pharmaceutical and the excipient  
    package of the chosen model compound-excipient formulation.
2. (Original) A method according to claim 1, wherein the model compound-excipient  
    formulation is saturated in model compound.
3. (Original) A method according to claim 1, wherein the parameters further comprise the  
    number of freely rotatable bonds.
4. (Original) A method according to claim 1, wherein the parameters further comprise the  
    number of H-bond donors and acceptors.
5. (Original) A method according to claim 1, wherein the diffusion is measured utilizing a  
    Franz cell.

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6. (Original) A method according to claim 1, wherein at least one model compound comprises a dye.
7. (Original) A method according to claim 6, wherein measuring the diffusion of the model compound comprises fluorescence spectroscopy.
8. (Original) A method according to claim 6, wherein the diffusion of the model compound is simultaneously measured in a plurality of diffusion cells.
9. (Original) A method according to claim 8, wherein measuring the diffusion of the model compound comprises recording an image.
10. (Original) A method according to claim 1, wherein at least one model compound-excipient formulation comprises a plurality of different excipients.
11. (Original) A method according to claim 1, wherein diffusion is measured utilizing a chemical reaction.
12. (Original) A method according to claim 1, wherein at least one membrane comprises a synthetic polymer membrane.
13. (Original) A method according to claim 1, wherein at least one membrane comprises skin.
14. (Original) A method according to claim 1, wherein at least one membrane is selected from the group consisting of hairless mouse skin, snake skin, pig skin, and cadaver skin.
15. (Original) A method according to claim 1, wherein the parameters consist of log(P) and molecular weight.

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16. (Original) A method according to claim 1, wherein at least one parameter of at least one model compound is calculated.

17. (Original) A method according to claim 1, wherein at least one parameter of at least one model compound is experimentally determined.

18. (Original) A method according to claim 1, wherein at least one parameter of the pharmaceutical is calculated.

19. (Original) A method according to claim 1, wherein at least one parameter of the pharmaceutical is experimentally determined.

20. (Original) A method according to claim 1, further comprising:  
    contacting the pharmaceutical composition with the skin of a live mammal; and  
    observing the result.

21. (Original) A method according to claim 1, further comprising incorporating the pharmaceutical composition into a transdermal delivery system.

22. (Original) A method according to claim 21, further comprising contacting the pharmaceutical composition with the skin of a live mammal and observing the result.

23. (Original) A method according to claim 21, wherein the transdermal delivery device comprises an adhesive patch.

24. (Original) A method according to claim 1, wherein prior to measuring diffusion of each model compound-exipient formulation, it is incorporated into an adhesive patch.

25. (Original) A method according to claim 1, wherein the model compound-exipient formulation comprises a plurality of model compounds.